Four Mile Bridge (Copper Creek Bridge)
Spanning Table Rock Fork of the Molalla River
on Copper Creek Road
Molalla Vicinity
Clackamas County
Oregon

HAER No. OR-13

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Western Regional Office
National Park Service
U.S. Department of the Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

Four Mile Bridge
(Copper Creek Bridge)

HAER No. OR-13

Location: Spanning Table Rock Fork (Middle Fork) of the Molalla River, on Copper Creek Road (BLM #7-3E-14.2), 15 miles southeast of the town of Molalla, Clackamas County, Oregon.
T. 7 S., R. 3 E., Sec. 14 center E-1.2W1/2, Willamette Meridian.

UTM: 10.546650.4978710
Quad: Gawley Creek, Oregon

Date of Construction: 1943. Altered in 1950.

Builder: Weyerhaeuser Company

Present Owner: Bureau of Land Management
U.S. Department of the Interior
Salem District Office
1717 Fabry Road SE
Salem, OR 97306

Present Use: Vehicular bridge--abandonedin 1976. To be demolished in 1989.

Significance: One of two remaining timber deck arch bridges in Oregon, Four Mile Bridge incorporates a unique combination of a truss and an arch to cross a short 118-foot span. Weyerhaeuser Company hauled over 1 billion board feet of timber over the bridge from 1943 to 1974, making a significant economic contribution to nearby communities. Built from old-growthtimber, the bridge reflects local response to and involvement in national economic effects of World War II. Four Mile Bridge was determined eligible for inclusion in the National Register of Historic Places in 1986.

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Spanning the Table Rock Fork (Middle Fork) of the Molalla River in Clackamas County, Oregon, Four Mile Bridge is reached by traveling 2 miles south of Junction Highway 211 and South Feyrer Park Road, then 5.4 miles south on South Dickey Prairie Road, then 13.2 miles south on South Molalla River Road (No. 6-3E-6) to the intersection with Copper Creek Road in the NW¼ of Section 14, T. 7 S., R. 3 E., Willamette Meridian. The Table Rock Fork, which flows into the main channel of the Molalla River 0.4 miles SW of Four Mile Bridge occupies a 35-foot wide channel in a gorge that is 46 feet deep at its deepest point. The bridge is on land owned and administered by the USDI, Bureau of Land Management, Salem District.

Four Mile Bridge is a multiple span timber deck arch bridge. The span lengths are listed below.

Span	Length
1	14' 3"
2	13' 8"
3	56' 4"
4	13' 8"
5	19' 8"

The total length of the bridge is 116 feet 8 inches. Deck width is 14 feet. The arch is 17 feet 11 inches high and supports the 56-foot 4-inch third span. The top of the arch measures 7 feet from hinge to bridge deck. Each end of the arch measures 24 feet 9 inches from bent to deck. Bridge decking consists of 4"x12" planks and stringers measuring 6"x13½" and 9"x13½". Posts are 11½"x11½" and braces are 2-5/8"x9½" (USDT 1986: 17). See "Measured Drawings of Four Mile Bridge" for additional information. Drawings are located in project Field Records.

Constructed of old-growth Douglas-fir and creosoted when completed in the Fall of 1943, Four Mile Bridge combines both an arch and a truss in a variation of a truss bridge design patented by William Howe in 1846. Instead of running alongside the bridge deck as in the original Howe design, the arch of Four Mile Bridge is used as the bottom chord and the arch pilings are driven directly into the rock of the gorge. Like many other wooden bridges in the United States, Four Mile Bridge is supported by both vertical and diagonal beams (Condit, 1960:75).

Weyerhaeuser Company constructed Four Mile Bridge over a few months in the Fall of 1943. While most Weyerhaeuser bridges were log stringer type and constructed from standard company designs, the width of the Table Rock Fork and expected heavy usage of the bridge necessitated a different design (Slater 1988). The chosen design, a combination of an arch and truss, was unique to Northern Oregon, but it is not known who the responsible architect was.

Bridge construction was supervised by Mr. Sigman, Weyerhaeuser Construction Foreman for the Molalla Region. A fifteen man crew operated out of Valley Creek Construction Camp at the end of the county road near the community of Glen Avon, 13.2 road miles northwest of Four Mile Bridge (Slater 1988). Heavy equipment used in construction included two cat tractors and a crane. Each hinged truss was pulled across the gorge by cat and lowered into place by crane. Concrete bents placed on the rock of the gorge supported each truss end. Once supporting cross-members were in place, vertical supports and bridge decking were added (Slater 1988).

Four Mile Bridge remained in excellent condition for years after its construction. The original coat of creosote never needed replacing and regular inspection of the bridge failed to turn up evidence of rot. Minor modification of the bridge was necessary only once, in 1950. The 5-foot railings on the bridge prevented Weyerhaeuser from moving its new, large mechanized equipment across. Weyerhaeuser Superintendent of Logging Operations for the Molalla Region, Ivan Slater, supervised the removal of the original railings and replacement with 2-foot railings identical in design to the originals. The 2-foot railings have not been altered since. The running boards of the bridge were replaced twice, due to excess wear, between 1949 and 1972 (Slater 1988).

The bridge allowed road access to timber in the upper Molalla region for the first time. Originally named because of its location four miles northwest of the Weyerhaeuser Logging Camp it was built to serve, Four Mile Bridge acquired a new name, Copper Creek Bridge, when Copper Creek Road was constructed further up the valley in the late 1940's. During the peak of logging operations in the early 1950's, the Weyerhaeuser camp housed as many as 180 men at once (Slater 1988). Loads hauled over Four Mile Bridge averaged 15,000 board feet each. Logging trucks used the bridge year round, removing about 30 million board feet of timber a year from 1944-1960 and up to 50 million board feet a year from 1960-1972 (Slater 1979). With most of the accessible timber harvested by 1972, Weyerhaeuser sold its timber interests in the area of Four Mile Bridge to Crown Zellerbach. That same year, the Bureau of Land Management acquired Four Mile Bridge and 20.2 miles of road (including Copper Creek Road) from Weyerhaueser. Bridge use decreased, as the remaining timber was at high elevations, and hard to reach. But, even with a reduced operating season aimed at reaching high elevations, up to 45 trucks a day crossed Four Mile Bridge in the summer months of 1976 (Slater 1979).

In 1976 the Bureau of Land Management constructed a cement bridge 80 feet downstream of Four Mile Bridge. Abandoned since then, the Four Mile Bridge is only accessible to pedestrians/equestrians as the approaches have been blocked to vehicles. Seasonal logging and recreation are the primary activities in the area today. Recreational use has increased due to the creation of the 5,750-acre Table Rock Wilderness immediately to the east of the bridge in 1984. The Wilderness is administered by the USDI, Bureau of Land Management, Salem District.

The area around Four Mile Bridge was one of substantial human activity long before construction of the bridge in 1943. The Table Rock Trail (35CL34), part of a prehistoric cross--Cascades trail system, crosses the Table Rock Fork a few hundred feet upstream from Four Mile Bridge, but passes the area of the bridge before heading east toward Table Rock. Originally identified on an 1882 General Land Office (GLO) survey, the trail's aboriginal use is evidenced by two lithic scatters (35-CL-25 and 35-CL-41) along the trail. Subsequent users of Table Rock Trail included gold prospectors near the turn of the century and sheep and cattle herders from 1910 into the 1930's (Bunke 1979).

In the immediate vicinity of Four Mile Bridge, two prehistoric sites, 35CL4 and 35CL38 have been identified. 35CL4 is a small lithic scatter located a few hundred feet downstream from Four Mile Bridge on the west side of the Table Rock Fork. The Molalla Fork Campsite (35CL38) is also nearby, at the confluence of the Table Rock Fork and the Molalla River. 35CL38 is an extensive site, containing tools, a projectile point, and a large number of flakes. Historic

sites include the E. Jones Cabin, constructed prior to 1882 where the Table Rock Fork and the South Fork of the Molalla River meet. In 1890, Jones patented 160 acres that includes the site of Four Mile Bridge and an open meadow just upstream from the bridge was locally known as Jones Meadow. Also recorded on the 1882 GLO survey map was Henry Russell's cabin. Russell, the owner of Bee Ranch in Section 15 just west of Four Mile Bridge, kept bee colonies on the upper reaches of the Molalla River.

In 1933 and 1934, Bee Ranch was used as a guard station and camp for men building trails in the area (Bunke 1979). During this period, Clackamas-Marion Fire Protection Agency crews extended the South Fork Molalla River trail (recorded on the 1882 GLO survey as extending from Bee Ranch to the mouth of Copper Creek) to Lookout Mountain, where a fire lookout was constructed. Agency crews also hauled supplies on the South Fork Trail to rebuild the Pechuck Lookout in 1932. That structure stands today in the NE¼ Section 27, T. 7 S., R. 4 E., Willamette Meridian, about 5½ miles from Four Mile Bridge.

The first bridge across the Table Rock Fork was constructed by sheep and cattle herders who began appearing in the area around 1910. Attracted to the area by excellent grazing land produced by burning, herders constructed Sheep Bridge near the spot where the Table Rock Trail crossed the Table Rock Fork (Bunke 1979). Sheep Bridge was a log stringer bridge with a 5-foot wide split Douglas-fir shake puncheon deck. Destroyed and rebuilt several times due to floods, the bridge was not replaced after 1936. Abutments from Sheep Bridge are still visible imbedded in the rock up river from Four Mile Bridge.

The construction of Four Mile Bridge was directly related to the outbreak of World War II. Access to timber across the Table Rock Fork was needed for the war effort, but steel was not available for bridge construction. Because of this, timber was used to construct the Four Mile Bridge and many other bridges during the war (Slater 1979). It is not clear where the old-growth Douglas-fir used to construct the bridge was cut. While fir was plentiful in the area of the bridge, Weyerhaeuser may have brought the lumber in from almost anywhere in the region.

The need for a bridge over the Table Rock Fork was dictated by topography. Steep slopes on the south side of the Molalla River forced the road to be placed on the north side in the area of the Table Rock Fork. (See USGS 7.5-foot Topographic Quadrangle Gawley Creek, Oregon.) A bridge over the Table Rock Fork was the easiest way to reach the timber in the upper Molalla River region. The level surroundings of the Four Mile Bridge site undoubtedly made it the most attractive in the vicinity.

Four Mile Bridge is one of only two remaining timber deck arch bridges in Oregon. The other, Mott Bridge, built in 1936 by the Civilian Conservation Corps, is still in use across the North Umpqua River in Douglas County. Four Mile Bridge is significant for this and two other reasons. First, Four Mile Bridge evolved as a specific response to a National need--access to raw materials (wood needed for the war effort) when the use of steel was restricted due to that same war effort. Secondly, the bridge gave Weyerhaeuser access to over 1 billion board feet of timber in the upper Molalla Region allowing individuals from local communities (Molalla, Canby, Colton) to have steady jobs for over three decades.

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